

Meadmaking 101



Don Burkart – Dec 2021

MEAD

- Mead is the oldest known alcoholic beverage in world history
- Mead pre-dates wine and beer by thousands of years
- Mead is credited for the term “honeymoon,” as it was historically served at weddings and gifted to newlyweds. The couple would drink it in excess a “moon” (or month) after their ceremony to enhance fertility

Terminology

Wine is fermented fruit

Mead is fermented honey

Melomel (mead with fruit added)

Pyment (mead with grapes or grape juice)

Cyser (mead with apples or apple juice)

Metheglin (mead with spices added)

Braggot (mead made with malt)

Tonight we are talking about Mead

Terminology

Must is the term used to describe the unfermented solution to which you add yeast in order to make mead or wine

Fermentation is the chemical breakdown of a substance by bacteria, yeasts, or other microorganisms. As yeast consume sugar, they produce alcohol and carbon dioxide (CO₂)

Terminology

Lees is a term used for the sludge that forms on the bottom and sides of the bottle during fermentation, and in mead is usually just dead yeast

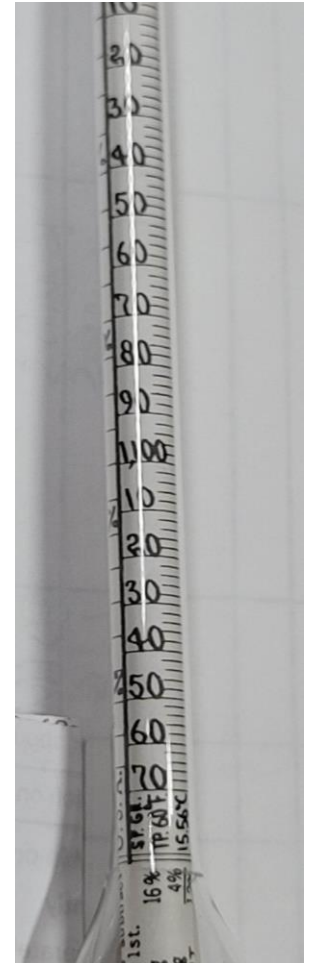
Racking is the term used for siphoning the clear liquid off of the lees after fermentation is complete and other times during the process

Carboy is the glass vessel you will be fermenting in. This can be any size, but I like to work with 5 or 6-gallon carboys

Honey to Mead

Honey is about 18% water or 82% sugar, to make mead you need it to be about 75% to 82% water, or 18% to 25% sugar

Winemakers use a hydrometer to measure the Brix in a solution. There are usually a couple of scales on a hydrometer, one showing Brix and another showing specific gravity. Both Brix and specific gravity are a measurement of sugar



Hydrometer Specific Gravity
to Brix
to % Alcohol

Specific Gravity	Brix	% Alcohol
0.990	0	
0.995	0	
1.000	0	
1.005	1.28	
1.010	2.56	
1.015	3.82	
1.020	5.08	
1.025	6.32	
1.030	7.55	
1.035	8.77	
1.040	9.98	
1.045	11.18	
1.050	12.37	
1.055	13.55	
1.060	14.72	
1.065	15.88	
1.070	17.03	
1.075	18.18	10.3
1.080	19.31	11
1.085	20.43	11.8
1.090	21.54	12.6
1.095	22.65	13.4
1.100	23.75	14.2
1.105	24.83	15
1.110	25.91	15.8
1.115	26.98	
1.120	28.05	
1.125	29.1	
1.130	30.15	

Sweet spot for
mead

Hardware you need

- (2) Glass bottles
- Bucket
- Large spoon
- Siphon tube
- Hydrometer
- Rubber stoppers
- Air locks



Hardware nice to have



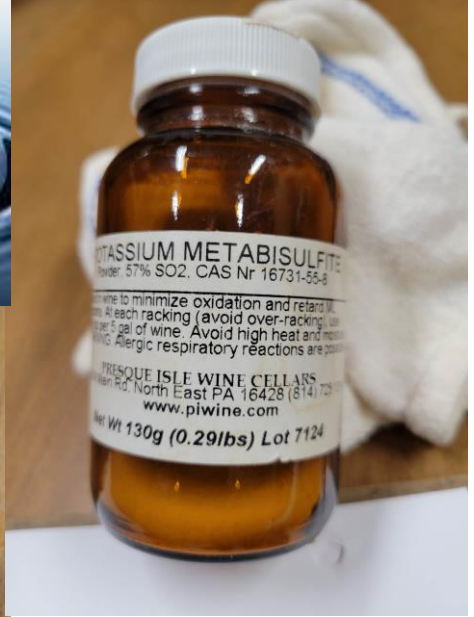
Ingredients you need

Honey

Water

Yeast

Potassium metabisulfite



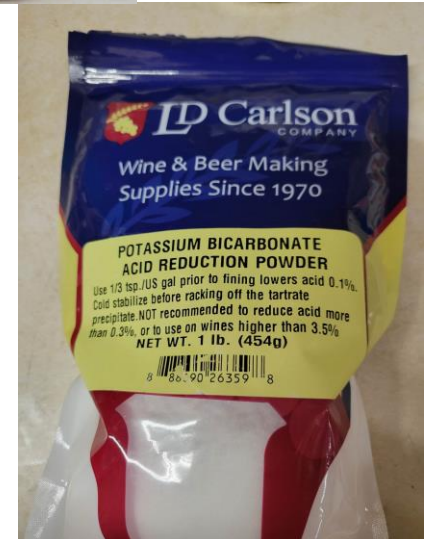
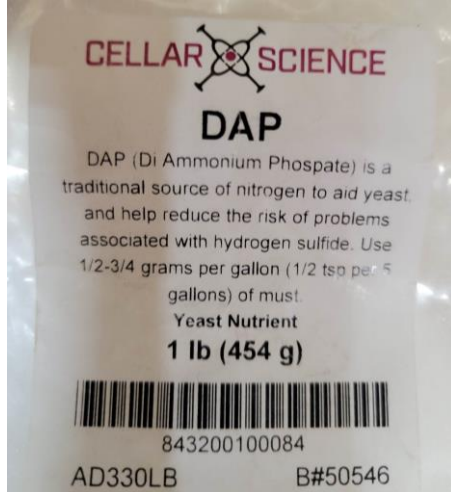
Ingredients good to have

Fermaid-K (or other yeast nutrient)

Diammonium Phosphate (DAP)

Potassium Bicarbonate

Tartaric Acid



Before starting

- Decide on how much mead you are going to make
- Decide on which yeast you are going to use
- Order your hardware and ingredients
- Choose a place to make your mead

CHOOSING PRODUCTS FOR FRUIT WINES AND MEAD			
◆ Highly Recommended			
◊ Recommended			
Yeast	Fruit	Mead	Page#
Lalvin 718™	◆		17
CVW5™	◆	◆	21
Lalvin DV10™	◆	◆	22
Lalvin EC1118™	◆	◆	22
Lalvin ICV D47™	◆		24
Lalvin K1 (V1116)™	◆	◆	27
Lalvin ICV OKAY™	◆		25
Lalvin QA23™	◆	◆	28
Lalvin R2™	◆		29
Lalvin Sensy™	◆		30
VIN 13	◆	◆	31
Tannins	Fruit	Mead	Page#
ScottTan™ FT Blanc	◆		69
ScottTan™ FT Blanc Citrus	◆	◆	69
ScottTan™ FT Blanc Soft	◆	◆	70
ScottTan™ FT ColorMax	◆		70
ScottTan™ FT Rouge	◆		71
ScottTan™ FT Rouge Berry	◆		71
ScottTan™ FT Rouge Soft	◆		71
ScottTan™ Radiance	◆		72
Fining Agents/Stability			
Bentolact S	◆		98
Caséinate de potassium	◆		98

EC1118 (PRISE DE MOUSSE) CALLEMAND

Original sparkling wine strain

Sparkling Base Wines

#15053	500 g	\$29.00
#15076	10 kg	\$413.00

Lalvin EC1118™ is the original, steady, low-foamer yeast strain. This *Saccharomyces cerevisiae bayanus* strain was selected by the IOC in Epernay, France and is the reference strain for sparkling base wine. It is an excellent choice for secondary fermentations of sparkling wine.

Ferments well at low temperatures and flocculates with compact lees. Under low nutrient conditions EC1118 can produce high amounts of SO₂ (up to 50 ppm) and, as a result, may inhibit malolactic fermentation.

Alcohol Tolerance: 18%	Nitrogen Needs: LOW	Temp. Range: 50-86°F
---------------------------	------------------------	-------------------------

Step 1 - Sanitation

Start by cleaning and sanitizing all the hardware, everything that will come in contact with the must

Dissolve 1.5 teaspoons of potassium metabisulfite (KMBS) into 750ml of cool tap water and submerge everything (bottles, buckets, beakers, test jar, spoon, hydrometer, siphon tube, air lock, thermometer, and rubber stoppers)



Step 2 – Hydrate yeast

Heat small amount of water (60 ml) to between 100° 105° F and add yeast



Step 3 – Mix honey and water

Pour about half the water into a sanitized bucket, add the honey and stir until it is completely dissolved

Add remaining water slowly while stirring and use the hydrometer to measure the Brix

Sp. Gr. (@60°F)	Approx. %ABV	Brix (@60°F)
0.980	-2.6	-5.3
0.985	-2.0	-3.9
0.990	-1.3	-2.6
0.995	-0.7	-1.3
1.000	0.0	0.0
1.005	0.7	1.3
1.010	1.3	2.5
1.015	2.0	3.8
1.020	2.6	5.1
1.025	3.3	6.3
1.030	3.9	7.5
1.035	4.6	8.7
1.040	5.2	10.0
1.045	5.9	11.2
1.050	6.5	12.3
1.055	7.2	13.5
1.060	7.8	14.7
1.065	8.5	15.8
1.070	9.1	17.0

1.075	9.8	18.1
1.080	10.4	19.2
1.085	11.1	20.4
1.090	11.7	21.5
1.095	12.4	22.6
1.100	13.0	23.7
1.105	13.7	24.8
1.110	14.3	25.8
1.115	15.0	26.9
1.120	15.6	28.0
1.125	16.3	29.0
1.130	16.9	30.1
1.135	17.6	31.1
1.140	18.3	32.1
1.145	18.9	33.2
1.150	19.6	34.2

TEMPERATURE °F	CORRECTION SP. GR.
52.2	-0.001
60	-
66.6	+ 0.001
72.4	+ 0.002

TEMPERATURE °F	CORRECTION BRIX
52.2	-0.2
60	-
66.6	+ 0.2
72.4	+ 0.4

Step 4 - Treat with SO_2 and correct pH

Add potassium metabisulfite (0.2 g/gallon) to kill any wild yeast that may have been present in the honey

Add potassium bicarbonate (0.45 g/gal) to raise the pH (lower the acid) to keep the wine yeast happy



Step 5 – Pitch the yeast

Measure the temperature of the must and the temperature of the yeast mixture. They need to be within 15° F before combining

Once temperatures are ok, simply pour the yeast mixture into the must and stir it in. At this point, oxygen is good...so stir/shake/agitate the must to get the yeast distributed and oxygen into it

Transfer the must into a sanitized carboy and install rubber stopper and airlock



Step 6 – Adding nutrients

After about a day you should see some sign that fermentation has started. It is now time to add the yeast nutrients

Add 1 gram of Fermaid-K and 1.5 grams of Diammonium Phosphate (DAP) per gallon of must



Step 7 – Observe fermentation and add nutrients

After 3 to 5 days, check specific gravity. At 1/3 sugar depletion its time to add more nutrients

Add 1 gram of Fermaid-K and 1.5 grams of Diammonium Phosphate (DAP) per gallon of must

In about 2 to 3 weeks you should see fermentation slowing or stopping

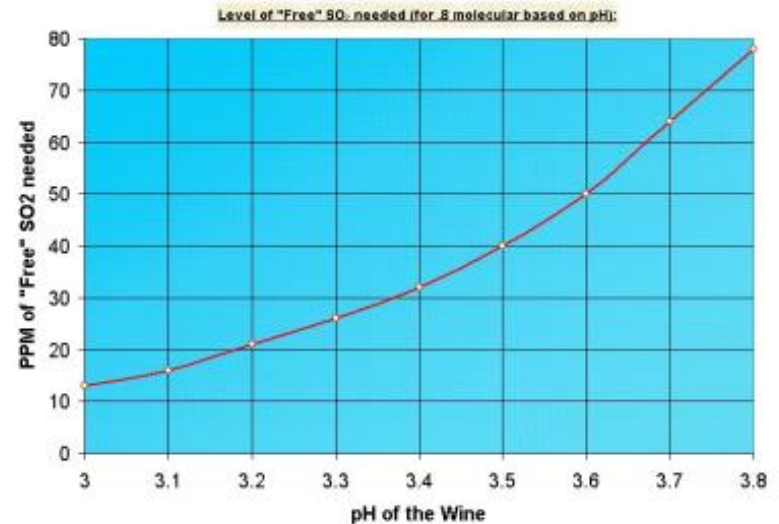


Step 8 – Adding SO₂

After fermentation has ended, check the specific gravity

Fully fermented mead should register a SG of between 0.994 and 1.000

Add 50 PPM of KMBS to protect it from spoilage



Step 9 – Testing and adjusting Acid

Test total acid using a kit

or

Adjust acid to reach a
specific pH

or

Adjust acid to meet your
taste



Step 10 – Let it age



Resources

Scott Labs - <https://scottlab.com/learn>

Scott Labs – [2021 Fermentation Handbook](#)

MoreWine - <https://morewinemaking.com/>

MoreWine - [Guide to Mead Making](#)

WineMaker Magazine - <https://winemakermag.com/index>

Listerman Brewing Co. - <https://www.listermannbrewing.com/>